

SEQUENCE LISTING

(1) GENERAL INFORMATION:

(iii) NUMBER OF SEQUENCES: 23

(2) INFORMATION FOR SEQ ID NO:1:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 6689 bases

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic) human

(ix) FEATURE:

(A ) NAME/KEY: AIPL1 gene

(B) LOCATION: 17p13.1

(D) OTHER INFORMATION: produces aryl-hydrocarbon receptor interacting protein-like 1

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:

1

ggcctcccaa agtgctggat tacaggcgtg agtcaccgcg cctgggtcccc tgtcttcttt

61

aagaaagctc agcggacctt ttctcttctt ggggtggaac aaaaagccaa atctagcaca

121

accctgggca ggggcccaga atcactggaa gcaaaggtgg atgggatagg aggcgaggct

181

gcctgtggac cacaggcccc gcccgagtgg ctctgatgag aagccggggc gcctaggtca

241

ccgccccac cgtctgcctt cccccccact ctcctgggt gggtaaatacc cagagtctca

301

gccgcctaag tgtcttcccc ggaggtgaga ttatctccgc ctgtgctgga cacctccctt

361

tctcctgcag ccatggatgc cgctctgctc ctgaacgtgg aaggggtcaa gaaaaccatt

421

ctgcacgggg gcacgggcga gtccecaaac ttcatacccg gatcccgagt gagtggggcc

481

cctccggagc agacagggtc cccacagca gctttcaaca ttccaggtgt gcccgaaggc

541

actgtaaaca gctttcagct gtgccaaaaa aacagccagg cagccccagc gctgggcctc  
601

cggggagctc ccagcgttta cccattcagg gggcattttt ggtactttgc agattcaact  
661

ttagcatggg ctgaggggaa gggcttttgg gaattttctg gggccctaaa tgttgagtga  
721

gaagaaaggg agtccgagga gtcttggtat ttgtcccaa atgtctgtta ggcttcctg  
781

gactgaaggg tgcgtctgtg gctacagaat tcgggctttg gccaggcgag gcggctccc  
841

cctgtaatcc cagcactttg ggaggccaag atgggcagat catgagggtca agagttcgag  
901

accagcctga ccaacatgtg aaaccccatc tctactgaaa atacaaaaat tagccagatg  
961

tgctgtggcg cctgtaatcc cagttcagat actcaggaga cttgaggcag gagaatcact  
1021

tgagcccagg aggtggaggt tgcagtgagc cgagatcata ccaactgcact ccaacctggg  
1081

caacagagtg agactctgtc tcagaaaaaa aaaaaaaaaa aagaactcgg gcttacttga  
1141

ggaaggattt ctggacgcac agggctgtgg ggagtggaat ggggtctgta gggaggggtg  
1201

ggtccctcct ccctgggggg tgcaggcagg gtggaggtgc tccaggggtc tgaggcatct  
1261

gatgggggtga actgagtgag ctgaccctgg ggacagccct ggggtgctggg ggcaaggggg  
1321

tggcttctgc cgggccttga acagtgtgtc tagagcagag tgcaccgtct cggtgactag  
1381

gtgatctttc atttccgcac catgaaatgt gatgaggagc ggacagtcac tgacgacagt  
1441

cggcagggtg gccagcccat gcacatcatc atcggaaca tgttcaagct cgaggtctgg  
1501

gagatcctgc ttacctccat gcgggtgcac gaggtggccg agttctgggtg cgacaccatc





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3601

aacccccgtct ctattaaanaa cacaaaaaatt aaccgggtgt ggtggtgcat gcctgtaatc  
3661

aatcccagct acttgggaat ttgaggcatg agaattgctt gaacctggaa gtggaggttg  
3721

cagtgagcag agatcatgtc agtgcatttt aacctgggtg acagagtgaag actccatgtc  
3781

caaaaaaaag aaaaaaaaaa aaagtccact tggaaccagt ttttaaaaat gtgattcatt  
3841

ttcattgtgg aggcatttta tccacttcca ctttcatttt caggagttgg agattataac  
3901

cgctccttg gttcctgtgg tttgtgggtt cagacttggg tctctngtgg cgggagaggg  
3961

tgcattggaac tccccacatc ctcccaacca ggagccccag agtgattggc agcgcggtgt  
4021

tgtggattgg tgagagaggg ttagggccag ggtcaaggtc aggtcaggac tcagcttatg  
4081

gccaagactg aggctcagcc tgagagctat gtgggtgaat aaaataaaat aagaactgtg  
4141

tcaaccaagg gccctttaca ggcttgctgt cacagttgtg tgggtctgtgc actgcacaag  
4201

gtgcaccggc atctcctcca aggtgctcat tatagacatt gtatatgggt atttccataa  
4261

tgagaagttt ccagcagatg gcaatagtgt attgttctaa caaaacgagt attcgtgaca  
4321

atcttctgaa tattagaagt gaagtgtctt gatgaacggg caccttttcc tagtttgcac  
4381

aaagacattg atttagggca gggttttcgg cgttggtgct tctttccctt gtctgtatgc  
4441

acttgaccag caagcatgac ttcagggaga tgtgccacag ggtcctgttt ttcgggtctc  
4501

tgatgggggtg caggccccctg gggtccttgc ctactgacc tgcagctctg gggccaggtt  
4561

gatgccccga gtgattacca gagggagacc tggaacctga gcaatcatga gaagatgaag

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ttaaaaagga gaggaggagg tactgctatt atgatcatca tctccatctt acagttgagg

5641

aaaccgaggg atgggggata cagagaggtt aaggatcatg gcggggctga gggctcttga  
5701

ggctggtgag tccagctgg gctggggctg cctctgaggc tgggaagggg gctgtagctg  
5761

gatgctccct gctccccaca ggcacgtga aggcctacta cgtgcgtgcc cgggctcacg  
5821

cagaggtgtg gaatgaggcc gaggccaagg cggacctcca gaaagtgtg gagctggagc  
5881

cgtccatgca gaaggcgggtg cgcagggagc ttgaggctgc tggagaaccg catggcggag  
5941

aacaggagga ggagcggctg cgctgccgga acatgctgag ccagggtgcc acgcagcctc  
6001

cgcagagcc acccacagag ccacccgcac agtcatccac agagccacct gcagagccac  
6061

ccacagcacc atctgcagag ctgtccgcag ggccccctgc agagccagcc acagagccac  
6121

ccccgtcccc agggcactcg ctgcagcact gagccccctg agggccacag ccaccagggc  
6181

aggagcaag tggcctggtc acttctggtt cgattgacca ggatcgtggt gtcacttttt  
6241

aaaatttaaa attaattttt gaaatcaaag tcagacacac ccatggtaaa aaaaaaaaaa  
6301

aaaacaatcc caagggtaca gaagagctta tgaataaaag tagttttctc ctctaccctc  
6361

ctcattcctt ccgtgccatg gttttaattg accctgtttt taattcttct ggtagttttc  
6421

tctatttcca agtaatctgt ttaaatacagt ttctagattt taccatgt caatgacaaa  
6481

tgaggatttg atgctctgat cttttctcat gcctgatacc cctccctgtc tccccatttt  
6541

ggatagttac atttgggggt catctcggtg atttttgtaa ctttacgcag gacacttaga  
6601

gctctctaga atcccactga ctttagtggg gtcttgatgt aggggtgggca agccccgaca

6661

ctggagctta gcctgagagg gggtcttgc

6689

(2) INFORMATION FOR SEQ ID NO:2:

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(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1119 bases
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

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(ii) MOLECULE TYPE: cDNA **Baboon**

(ix) FEATURE:

- (A ) NAME/KEY: AIPL1 gene
- (B) LOCATION:
- (D) OTHER INFORMATION: produces aryl-hydrocarbon receptor interacting protein-like 1

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:

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atggatgccg ctctgctcct gaacgtggaa ggggtcaaga aaaccattct gcacggaggc  
acgggcgagc tcccaaactt catcaccgga tcccagatga tctttcattt ccgcaccatg  
aaatgtgatg aggagcgcac ggatcatcgac gacagccggc aggtggacca gcccatgcac  
atcatcatcg ggaacatggt caagctcgag gtctgggaga tcttgctcac ctccatgagg  
gtgcacgagg tggccgagtt ctggtgagc accatccaca cgggggtcta ccccatcctg  
tcccggagcc tgcggcagat ggcccagggc aaggacccca cggagtggca cgtgcacaca  
tgccggctgg ccaacatggt cgctaccac aactgggct acgaggacct ggacgagctg  
cagaaggagc ctacgcctct gatctttgtg atcgagctgc tgcaggttga cgccccgagt  
gattaccaga gggagacctg gaacctgagc aatcatgaga agatgaaggt ggtgcccgctc  
ctccacggag agggaaatcg gctcttcaag ctgggccgct acgaggaggc ctcttccaag  
taccaggagg ccatcatctg cctaaggaac ctgcagacca aggagaagcc atgggaggtg  
cagtggctga agctggagaa gatgatcaac accctgacct tcaactactg ccagtgcctg  
ctgaagaagg aggagtatta cgagggtgctg gagcacacca gtgacattct ccggcaccac  
ccaggcatcg tgaaggccta ctatgtgctg gcccgggctc acgcagaggt gtggaatgag  
gccgaggcca aggcggacct ccagaaagtg ctggagctgg agccatccat gcagaaggcg  
gtgcgcaggg agctgaggct gctggagaac cgcattggcag agaagcagga ggaggagcgg  
ctgcgctgcc ggaacatgct gagccaggga gccacgcagc ctcccacaga gccaccggca  
gagccccaca cagcaccacc tgcggagctg tccacagggc cacctgcaga gccaccgcga



gagctcccc tgtccccagg gcactcactg cagcactga

(2) INFORMATION FOR SEQ ID NO:3:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: bases  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA **Chimpansee**

(ix) FEATURE:

- (A ) NAME/KEY: AIPL1 gene  
(B) LOCATION:  
(D) OTHER INFORMATION: produces aryl-hydrocarbon  
receptor interacting protein-like 1

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:3:

tgtcgcaggggaatcctgcctgctgctgaatgtggaagggatcaagaaaaccattctgcatgggggacagggacctccccaacttcattactggagcccgagtgacctttcatttccgaaccatgaaatgtgatgaggagcggacggtgatagacgacagcaagcaggtgggccatcccatgcacatcatcattgggaacatgttcaagctggaggtctgggagatcttgctgacgtccatgcgggtcagcgaggtggccgagtt

(2) INFORMATION FOR SEQ ID NO:4:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: bases  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA **Cow**

(ix) FEATURE:

- (A ) NAME/KEY: AIPL1 gene  
(B) LOCATION:  
(D) OTHER INFORMATION: produces aryl-hydrocarbon  
receptor interacting protein-like 1

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:4:

atggatgccactctgctcctgaatgtggaagggatcaagaaaaccattctgcatgggggacagggacctccccaacttcattactggagcccgagtgacctttcatttccgaaccatgaaatgtgatgaggagcggacggtgatagacgacagcaagcaggtgggccatcccatgcacatcatcattgggaacatgttcaagctggaggtctgggagatcttgctgacgtccatgcgggtcagcgaggtggccgagtt

ttggtgcgacaccatccacacaggggtctaccccatcctgtcccggagcctgcggcagatggcg  
agggtaaggacccccacagagtggcacgtgcacacgtgtggcttggccaacatgttcgcttaccac  
acgctgggctacgaggacctggacgagctgcagaaggagcctcagccactgatcttcataatcga  
gttgctgcaggtcgaggccccgagccagtaccagagggagacctggaacctgaataaaccaggaga  
5 agatgcaggcggtgcccacctccatggagaaggaaaccggctcttcaagctgggcccgtacgag  
gaggcctccaacaagtaccaggaagccatcgtctgcctgaggaacctgcagaccaaggagaaaacc  
ctgggaggtgcagtggtgaagctggagaagatgatcaacacctgatcctgaactactgtcagt  
gtctgctgaagaaggaggagtactacgaggtgctggaacacactagtacatcctccggcatcac  
ccaggcatcgtgaaggcctactatgtgagggcccggtcacgccgaggtgtggaatgaggcgga  
10 agccaaggcggatctggagaaagtgctggagctggagccgtccatgcggaaggcggtgcagaggg  
agctgaggctgctggagaaccggctggaggagaaacgcgaggaggagcgactgcgctgccggaac  
atgctgggctagtgcgcaggcgccaagcctcctgcctccgccccccgcycctccacccccccaa  
aaaaaaaaaaaaaaaaattttt

(2) INFORMATION FOR SEQ ID NO:5:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: bases
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA *Dog*

(ix) FEATURE:

- (A ) NAME/KEY: AIPL1 gene
- (B) LOCATION:

(D) OTHER INFORMATION: produces aryl-hydrocarbon  
receptor interacting protein-like 1

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:5:

tgtacgggggcaccggcgagctcccaaacttcctcacgggggtcccggtcatctttcacttccgc  
acaacgaaatgcgacgaggcgcgacagtgatcgacgacagcaagcgtgtgggccatcccatgca  
30 catcatcatcggaacatgttcaagctggaggtctgggaggtgctgctgacatccatgcgcgtgg  
gcgaggtggccgagttctggtgcgactctattcacacaggagtctaccccatcctgtcccggagc  
ctgcggcaggtggcggaggggcaaggacccccactgagtggtacacacgtgcggccttgccaa  
catgtttgcctatcacacgctgggctacgaggacctggacgagctacagaaggagccgcagcccc  
tcacttcatgatagagctgctgcaggtggaggcccaagtgagtaccagagggagacgtggagc

ctgaacaatgagagaagatgcagcgggtacccatctcatggagaggggaaccgggtcttcaagctg  
ggccgctacaatgatgcctccaccaagtaccaggagccatcgctctgctgaggaacctgcagacca  
aggagaagcctgggaggtgcagtggctaaagctggagaagctgatcaacaccttgattctcaact  
actgccagtgtctgctgaagaaggaggagtactacgaggtgctggagcacactagcgacatcctg  
5 cggcttcacccaggaatcgtaaggcctactacgtgcgcgccccgggctcacgcggaggtgtggaa  
cgaggccgaggccaggcgaccttcagaaagtgctggagctggagccatccatggggaaggctg  
tgcgagggagctgcggcttctggaaaatcgctggaggaaaagcgggaggaggagcgggtgcgc  
tgccggaacatgcta

10

(2) INFORMATION FOR SEQ ID NO:6:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: bases
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA **mouse**

(ix) FEATURE:

- (A ) NAME/KEY: AIPL1 gene
- (B) LOCATION:
- (D) OTHER INFORMATION: produces aryl-hydrocarbon  
receptor interacting protein-like 1

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:6:

atggacgtctctctactcctcaatgtggaggggtgtcaagaagaccattctgcatggggggacagg  
agagctccccaacttcatcactgggtccagagtgcctttcatttccgaacaatgaagtgtgatg  
25 aagaacgcacggtgatcgatgacagcaagcaggtgggccagcccatgagcatcatcatcggcaac  
atgttcaagctggaggtgtgggagacgctgctgacctccatgcggctgggcgaggtggctgagtt  
ctggtgcgacaccattcacacaggggtctaccctatgttggtcccgagctctgcggcaggtggctg  
agggcaaggaccccacaagctggcatgtgcacacgtgcgggttgccaacatgtttgcataccac  
acgctgggctacgaggacctggatgagctgcagaaagagccacagcctcttgtcttctctgtatga  
30 actgttgacaggtggaggcccaaagttagtaccagagggagacgtggaacctgaataatgaagaga  
ggatgcaggcggtagctcttcttcatggagaaggcaacaggctctacaagctgggacgctatgat  
caggccgccaccaagtaccaggaggccattgtgtgctgaggaaccttcagaccaaggagaagcc  
ctgggaggttgagtggctgaagctggagaagatgatcaacacctgatcctcaactactgccagt  
gcctgctgaagaaggaggagtactacgaggtgttgagcacaccagcgacattctacgacaccac

ccagggatcgtgaaggcctactatatgcgcgcacgtgctcacgcagaggtgtggaacgctgagga  
ggccaaggcggacctggagaaagtgctggagttggagccatccatgcgcaaggcgggtgctcaggg  
aactgcggctgctggagagccgcctggcggacaaacaggaggaggagcggcagcgctgccggagc  
atgctgggctaggctgggctggattccactgagttagactgggttaggttgggtgggagctgcgg  
5 gttgaaccctggggcgagggtggggctatggact

(2) INFORMATION FOR SEQ ID NO:7:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: bases  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA *Rhesus monkey*

(ix) FEATURE:

- (A ) NAME/KEY: AIPL1 gene  
(B) LOCATION:  
(D) OTHER INFORMATION: produces aryl-hydrocarbon  
receptor interacting protein-like 1

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:7:

atggatgccgctctgctcctgaacgtggaaggggtcaagaaaaccattctgcacggaggcacggg  
cgagctcccaaacttcatcacccgatcccgagtgatctttcatttccgcaccatgaaatgtgatg  
aggagcgcacgggtcatcgacgacagccgtcaggtggaccagcccatgcacatcatcatcgggaac  
atgttcaagctcgaggtctgggagatcctgctcacctccatgaggggtgcacgaggtggccgagtt  
ctggtgcgacaccatccacacgggggtctaccccatyctgtcccggagcctgcggcgagatggccc  
25 agggcaaggacccccacggagtggcacgtgcacacatgcggggtggccaacatgttcgcctaccac  
acgctgggctacgaggacctggacgagctgcagaaggagcctcagcctctgatctttgtgatcga  
gctgctgcaggttgacgccccgagtgattaccagagggagacctggaacctgagcaatcatgaga  
agatgaaggtggtgcccgtcctccacggagagggaaatcggctcttcaagytgggccgctacgag  
gaggcctcttccaagtaccaggaggccatcatctgcctaaggaacctgcagaccaaggagaagcc  
30 gtgggaggtgcagtggtgaagctggagaagatgatcaacacctgacctcaactactgccagt  
gcctgctgaagaaggaggagtattacgaggtgctggagcacaccagtacattctccggcaccac  
ccaggcatcgtgaaggcctactatgtgctgcccggggtcacgcggaggtgtggaacgaggccga  
ggccaaggcggacctccagaaagtgctggagctggagccatccatgcagaaggcgggtgcgcaggg  
agctgaggctgctggagaaccgcatggcggagaagcaggaggaggagaggctgcgctgccggaac

atgctgagccagggagccacgcagcctcccgagagccaccggcacagccccccacagcaccacc  
tgcagagctgtccacagggccacctgcggaaccaccggcgagccccccacagcaccacctgcgg  
agctgtccacagggccacctgcagagccaccgcagagctccccctgtccccagggcactcactg  
cagcactga

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(2) INFORMATION FOR SEQ ID NO:8:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: bases

(B) TYPE: nucleic acid

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(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA *Squirrel monkey*

(ix) FEATURE:

(A ) NAME/KEY: AIPL1 gene

(B) LOCATION:

(D) OTHER INFORMATION: produces aryl-hydrocarbon  
receptor interacting protein-like 1

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:8:

15  
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atggatgccgctctgctcctgaacgtggaaggggtcaagaagaccattctgcacgggggacggg  
cgagctcccaaatttcatcaccggatcccgagtgatctttcatttccgcaccatgaaatgtgatg  
aggagcggacggtgattgacgacagcagggaggtgggcccagcccatgcacatcatcatcggaac  
atgttcaagctggaggtctgggagatcctgctcacgtccatgcgggtgcgagaggtggccgagtt  
ctggtgcgacaccatccacacgggggtctaccccatcctgtcccggagcctgcggcagatggccc  
agggcaaggacccgacggagtggtatgtgcacacgtgcgggctggccaacatgttcgcctaccac  
acgctgggctacgaggacctggatgagctgcagaaggagcctcagcctctgatctttgtgatcga  
gctgctgcaggttgatgccccaaagtattaccagagggagacctggaacctgagcaatcacgaga  
agatgaaggtggtgcccgtcctccatggagaaggaaataggctcttcaagctgggccgctacgag  
gaggcctcttccaagtaccaggaggccatcatctgcctaaggaacctgcagaccaaggagaaacc  
ctgggaggtgcagtggtgaagctggagaagatgatcaataccctgatcctcaactactgtcagt  
gtctgctgaagaaggaggagtactacgaggtcctggagcataccagtgcacattctccggcaccac  
ccaggcattgtgaaggcctactatgtgcgcgccccgggctcacgcggaggtgtggaacgaggccga  
ggccaaggcggacctccagaaagtgtgagctggagccgtccatgcagaaggcggtgcgcaggg  
agctgaggctgctggagaaccgcattggcgagagaagcaggaggaggagcggtgcgctgccgcaac  
atgctgagccagggggccacgtggtcccccgcgagccaccgcagagccacctgcagagtcac

cacagagccacccgcagagccacctgcagagccacctgcagagctaaccttgaccccggggcacc  
cactacagcactga

(2) INFORMATION FOR SEQ ID NO:9:

5

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 bases
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

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(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

- (A ) NAME/KEY: AIPL1 Met79Thr Mutation
- (B) LOCATION: 77...81
- (D) OTHER INFORMATION: Thr 79 mutation

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:9:

acc tcc acg cgg gtg

15

Thr

(2) INFORMATION FOR SEQ ID NO:10:

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(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 bases
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

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(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

- (A ) NAME/KEY: AIPL1 Trp88X mutation
- (B) LOCATION: 86...90
- (D) OTHER INFORMATION:

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:10:

gag ttc tga tgc gac

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X

(2) INFORMATION FOR SEQ ID NO:11:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 bases
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

- (A ) NAME/KEY: AIPL1 Val96Ile mutation
- (B) LOCATION: 94...98
- (D) OTHER INFORMATION:

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:11:

acg ggg atc tac ccc  
Ile

15

(2) INFORMATION FOR SEQ ID NO:12:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 bases
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

- (A ) NAME/KEY: AIPL1 Thr124Ile mutation
- (B) LOCATION:
- (D) OTHER INFORMATION:

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:

gac ccc ata gag tgg  
Ile

15

(2) INFORMATION FOR SEQ ID NO:13:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 bases
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single

(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: DNA (genomic)  
(ix) FEATURE:  
(A ) NAME/KEY: AIPL1 Pro376Ser mutation  
(B) LOCATION:  
(D) OTHER INFORMATION:  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:13:  
cca ccc tcg tcc cca  
Ser

15

(2) INFORMATION FOR SEQ ID NO:14:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 15 bases  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: DNA (genomic)  
(ix) FEATURE:  
(A ) NAME/KEY: AIPL1 Gln163X mutation  
(B) LOCATION:  
(D) OTHER INFORMATION:  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:14:  
gat tac tag agg gag  
X

15

(2) INFORMATION FOR SEQ ID NO:15:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 15 bases  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: DNA (genomic)  
(ix) FEATURE:  
(A ) NAME/KEY: AIPL1 Ala197Pro mutation



(B) LOCATION:

(D) OTHER INFORMATION:

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:15:

gag gag ccc tct tcc

15

Lys

(2) INFORMATION FOR SEQ ID NO:16:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 15 bases

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

(A ) NAME/KEY: AIPL1 Trp278X mutation

(B) LOCATION:

(D) OTHER INFORMATION:

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:16:

gag gtg tga aat gag

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X

(2) INFORMATION FOR SEQ ID NO:17:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 15 bases

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

(A ) NAME/KEY: AIPL1 IVS2-2A->G mutation

(B) LOCATION:

(D) OTHER INFORMATION:

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:17:

tcc cca cgg cac acg

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(2) INFORMATION FOR SEQ ID NO:18:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 bases
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

- (A ) NAME/KEY: AIPL1 Glu262Ser mutation
- (B) LOCATION:
- (D) OTHER INFORMATION:

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:18:

cac cca agt gcg cgg  
Ser

15

(2) INFORMATION FOR SEQ ID NO:19:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 bases
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

- (A ) NAME/KEY: AIPL1 Arg302Leu mutation
- (B) LOCATION:
- (D) OTHER INFORMATION:

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:19:

gcg gtg ctc agg gag  
Leu

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(2) INFORMATION FOR SEQ ID NO:20:

(i) SEQUENCE CHARACTERISTICS:

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(ii) MOLECULE TYPE: DNA (genomic)  
 (ix) FEATURE:  
     (A ) NAME/KEY: AIPL1 Ala336del2 mutation  
     (B) LOCATION:  
     (D) OTHER INFORMATION:  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:22:  
     t     ccc   gca   gcc   acc  
          del AG

13

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(2) INFORMATION FOR SEQ ID NO:23:

(i) SEQUENCE CHARACTERISTICS:  
     (A) LENGTH: 20 bases  
     (B) TYPE: nucleic acid  
     (C) STRANDEDNESS: single  
     (D) TOPOLOGY: linear  
 (ii) MOLECULE TYPE: DNA (genomic)  
 (ix) FEATURE:  
     (A ) NAME/KEY: AIPL1 Cys42X mutation  
     (B) LOCATION:  
     (D) OTHER INFORMATION:  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:23:  
     atg   aaa   tga   gat   gag  
          X

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(2) INFORMATION FOR SEQ ID NO:24:

(i) SEQUENCE CHARACTERISTICS:  
     (A) LENGTH: 20 bases  
     (B) TYPE: nucleic acid  
     (C) STRANDEDNESS: single  
     (D) TOPOLOGY: linear  
 (ii) MOLECULE TYPE: DNA (genomic)  
 (ix) FEATURE:  
     (A ) NAME/KEY: AIPL1 Leu257del9 mutation  
     (B) LOCATION:

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(D) OTHER INFORMATION:

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:24:

gat att cac cca  
del CTCCGGCAC

12

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(2) INFORMATION FOR SEQ ID NO:25:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 bases  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

(A ) NAME/KEY: AIPL1 Val33ins8 mutation  
(B) LOCATION:  
(D) OTHER INFORMATION:

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:25:

gac tag gtg atc ttg tga tct  
ins GTGATCTT

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(2) INFORMATION FOR SEQ ID NO:26:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 bases  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

(A) NAME/KEY: AIPL1 IVS1-9G->A Benign  
Variants/Polymorphisms

(B) LOCATION:  
(D) OTHER INFORMATION:

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:26:

CTC AGT GAC TAG

25

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G->A

(2) INFORMATION FOR SEQ ID NO:27:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 bases
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

(A ) NAME/KEY: AIPL1 IVS2+66G->C Benign  
Variants/Polymorphisms

(B) LOCATION:

(D) OTHER INFORMATION:

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:27:

TTT GCC GGG CTG  
G->C

(2) INFORMATION FOR SEQ ID NO:28:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 bases
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

(A ) NAME/KEY: AIPL1 IVS2-88C->T Benign  
Variants/Polymorphisms

(B) LOCATION:

(D) OTHER INFORMATION:

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:28:

TCC TCT CAG GAG  
C->T

(2) INFORMATION FOR SEQ ID NO:29:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 bases
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

(A ) NAME/KEY: AIPL1 IVS2-14G->A Benign  
Variants/Polymorphisms

(B) LOCATION:

(D) OTHER INFORMATION:

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:29:

ATC CAT TTA TCC  
G->A

(2) INFORMATION FOR SEQ ID NO:30:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 bases
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

(A ) NAME/KEY: AIPL1 IVS2-10A->C Benign  
Variants/Polymorphisms

(B) LOCATION:

(D) OTHER INFORMATION:

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:30:

CGT TTC TCC CCA  
A->C

(2) INFORMATION FOR SEQ ID NO:31:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 bases
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

(A ) NAME/KEY: AIPL1 IVS3-25T->C Benign  
Variants/Polymorphisms

(B) LOCATION:

(D) OTHER INFORMATION:

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:31:

CTG CCC CAC TGA

T->C

(2) INFORMATION FOR SEQ ID NO:32:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 bases
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

(A ) NAME/KEY: AIPL1 IVS3-21T->C Benign  
Variants/Polymorphisms

(B) LOCATION:

(D) OTHER INFORMATION:

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:32:

CCT CAC CGA CCT

T->C

(2) INFORMATION FOR SEQ ID NO:33:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 bases
- (B) TYPE: nucleic acid



(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: DNA (genomic)  
(ix) FEATURE:  
5 (A ) NAME/KEY: AIPL1 IVS5+18G->A Benign  
Variants/Polymorphisms  
(B) LOCATION:  
(D) OTHER INFORMATION:  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:33:  
10 AGG AGC GGA CAG  
G->A

(2) INFORMATION FOR SEQ ID NO:34:

(i) SEQUENCE CHARACTERISTICS:  
15 (A) LENGTH: 20 bases  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: DNA (genomic)  
20 (ix) FEATURE:  
(A ) NAME/KEY: AIPL1 Asp90His Benign  
Variants/Polymorphisms  
(B) LOCATION:  
(D) OTHER INFORMATION:  
25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:34:  
TGG TGC CAC ACC  
His

(2) INFORMATION FOR SEQ ID NO:35:

(i) SEQUENCE CHARACTERISTICS:  
30 (A) LENGTH: 20 bases  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)  
(ix) FEATURE:  
    (A     )     NAME/KEY:     AIPL1     Phe37Phe     Benign  
    Variants/Polymorphisms  
    (B) LOCATION:  
    (D) OTHER INFORMATION:  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:35:  
    CAT   TTC   CGC   ACC  
        Phe

(2) INFORMATION FOR SEQ ID NO:36:

(i) SEQUENCE CHARACTERISTICS:  
    (A) LENGTH: 20 bases  
    (B) TYPE: nucleic acid  
    (C) STRANDEDNESS: single  
    (D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: DNA (genomic)  
(ix) FEATURE:  
    (A     )     NAME/KEY:     AIPL1     Ser78Ser     Benign  
    Variants/Polymorphisms  
    (B) LOCATION:  
    (D) OTHER INFORMATION:  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:36:  
    ACC   TCT   ATG   CGG  
        Ser

(2) INFORMATION FOR SEQ ID NO:37:

(i) SEQUENCE CHARACTERISTICS:  
    (A) LENGTH: 20 bases  
    (B) TYPE: nucleic acid  
    (C) STRANDEDNESS: single  
    (D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: DNA (genomic)  
(ix) FEATURE:

(A ) NAME/KEY: AIPL1 Cys89Cys Benign  
Variants/Polymorphisms

(B) LOCATION:

(D) OTHER INFORMATION:

5 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:37:  
TGG TGT GAC ACC  
Cys

(2) INFORMATION FOR SEQ ID NO:38:

10 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 bases

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

15 (ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

(A ) NAME/KEY: AIPL1 Leu100Leu Benign  
Variants/Polymorphisms

(B) LOCATION:

20 (D) OTHER INFORMATION:

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:38:

ATC CTG TCC CGG  
Leu

25 (2) INFORMATION FOR SEQ ID NO:39:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 bases

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

30 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

(A ) NAME/KEY: AIPL1 His172His Benign  
Variants/Polymorphisms

(B) LOCATION:  
(D) OTHER INFORMATION:  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:39:  
AAT CAC GAG AAG  
His

(2) INFORMATION FOR SEQ ID NO:40:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 bases  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

(A ) NAME/KEY: AIPL1 Pro217Pro Benign  
Variants/Polymorphisms

(B) LOCATION:

(D) OTHER INFORMATION:

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:40:

AAG CCG TGG GAG  
Pro

(2) INFORMATION FOR SEQ ID NO:41:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 bases  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

(A ) NAME/KEY: AIPL1 Asp255Asp Benign  
Variants/Polymorphisms

(B) LOCATION:

(D) OTHER INFORMATION:

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:41:  
AGT GAC ATT CTC  
Asp

5

(2) INFORMATION FOR SEQ ID NO:42:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 bases
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

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(ii) MOLECULE TYPE: DNA Primer

(ix) FEATURE:

- (A ) NAME/KEY: AIPL1 primer
- (B) LOCATION:
- (D) OTHER INFORMATION:

15

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:42:

5'-AAGAAAACCATTCTGCACGG-3'

20

20

(2) INFORMATION FOR SEQ ID NO:43:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 19 bases
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

25

(ii) MOLECULE TYPE: DNA Primer

(ix) FEATURE:

- (A ) NAME/KEY: AIPL1 primer
- (B) LOCATION:
- (D) OTHER INFORMATION:

30

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:43:

5'-TGCAGCTCGTCCAGGTCCT-3'

19

(2) INFORMATION FOR SEQ ID NO:44:

(i) SEQUENCE CHARACTERISTICS:

5

- (A) LENGTH: 17 bases
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Primer DNA

(ix) FEATURE:

- (A ) NAME/KEY: AIPL1 primer
- (B) LOCATION:
- (D) OTHER INFORMATION:

10

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:44:

5'-GACACCTCCCTTTCTCC-3'

17

(2) INFORMATION FOR SEQ ID NO:45:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 18 bases
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Primer DNA (genomic) human

(ix) FEATURE:

- (A ) NAME/KEY: AIPL1 primer
- (B) LOCATION:
- (D) OTHER INFORMATION:

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:45:

5'-GCTGGGGCTGCCTGGCTG-3'

18

(2) INFORMATION FOR SEQ ID NO:46:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 bases
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Primer DNA (genomic) human

(ix) FEATURE:

(A ) NAME/KEY: AIPL1 Primer

(B) LOCATION:

(D) OTHER INFORMATION:

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:46:

5'-CCGAGTGATTACCAGAGGGA-3'

20

(2) INFORMATION FOR SEQ ID NO:47:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 bases

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Primer DNA (genomic) human

(ix) FEATURE:

(A ) NAME/KEY: AIPL1 Primer

(B) LOCATION:

(D) OTHER INFORMATION:

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:47:

5'-TGAGCTCCAGCACCTCATAG-3'

20

(2) INFORMATION FOR SEQ ID NO:48:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 18 bases

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Primer DNA (genomic) human

(ix) FEATURE:

(A ) NAME/KEY: AIPL1 primer

(B) LOCATION:

(D) OTHER INFORMATION:

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:48:

5'-ACGCAGAGGTGTGGAATG-3'

18

(2) INFORMATION FOR SEQ ID NO:49:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 19 bases
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Primer DNA (genomic) human

(ix) FEATURE:

- (A ) NAME/KEY: AIPL1 Primer
- (B) LOCATION:
- (D) OTHER INFORMATION:

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:49:

5'-AAAAAGTGACACCACGATC-3'

19

(2) INFORMATION FOR SEQ ID NO:50:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 34 bases
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA (genomic) human

(ix) FEATURE:

- (A ) NAME/KEY: AIPL1 gene exon/intron donor splice site
- (B) LOCATION:
- (D) OTHER INFORMATION:

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:50:

CGGATCCCGAggtgagtggggccctccggagcaga

34

(2) INFORMATION FOR SEQ ID NO:51:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 35 bases
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single



(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: cDNA  
(ix) FEATURE:  
    (A ) NAME/KEY: AIPL1 gene exon/intron Acceptor  
          splice site  
    (B) LOCATION:  
    (D) OTHER INFORMATION:  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:51:  
      cagagtgacccgtctcggtagctagGTGATCTTTC

35

(2) INFORMATION FOR SEQ ID NO:52:

(i) SEQUENCE CHARACTERISTICS:  
    (A) LENGTH: 35 bases  
    (B) TYPE: nucleic acid  
    (C) STRANDEDNESS: single  
    (D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: DNA (genomic) human  
(ix) FEATURE:  
    (A ) NAME/KEY: AIPL1 gene exon/intron Donor splice  
          site  
    (B) LOCATION:  
    (D) OTHER INFORMATION:  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:52:  
      CSACACCATCgtaagtaggccctgcgcgcctgtct

35

(2) INFORMATION FOR SEQ ID NO:53:

(i) SEQUENCE CHARACTERISTICS:  
    (A) LENGTH: 35 bases  
    (B) TYPE: nucleic acid  
    (C) STRANDEDNESS: single  
    (D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: DNA (genomic) human  
(ix) FEATURE:  
    (A ) NAME/KEY: AIPL1 gene exon/intron Acceptor

splice site

(B) LOCATION: 17p13.1

(D) OTHER INFORMATION:

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:53:

gccatccatccggtttatccccacagCACACGGGGG

35

(2) INFORMATION FOR SEQ ID NO:54:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 35 bases

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic) human

(ix) FEATURE:

(A ) NAME/KEY: AIPL1 gene exon/intron Donor splice site

(B) LOCATION:

(D) OTHER INFORMATION:

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:54:

GCTGCTGCAGgtggggctgggggttggcagggctgg

35

(2) INFORMATION FOR SEQ ID NO:55:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 6689 bases

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(ix) FEATURE:

(A ) NAME/KEY: AIPL1 gene exon/intron Acceptor splice site

(B) LOCATION:

(D) OTHER INFORMATION:

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:55:

cactgacctgcagctctggggccagGTTGATGCCC

35

(2) INFORMATION FOR SEQ ID NO:56:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 35 bases
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(ix) FEATURE:

- (A ) NAME/KEY: AIPL1 gene exon/intron Donor splice site
- (B) LOCATION:
- (D) OTHER INFORMATION:

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:56:

GCAGACCAAGgtcagaggccgctggccacgggggtg

35

(2) INFORMATION FOR SEQ ID NO:57:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 35 bases
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(ix) FEATURE:

- (A ) NAME/KEY: AIPL1 gene exon/intron Acceptor splice site
- (B) LOCATION:
- (D) OTHER INFORMATION:

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:57:

catggctgaccttctccctgggcagGAGAAGCCRT

35

(2) INFORMATION FOR SEQ ID NO:58:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 35 bases
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

5 (ii) MOLECULE TYPE: DNA (genomic) human

(ix) FEATURE:

(A ) NAME/KEY: AIPL1 gene exon/intron Donor splice site

(B) LOCATION:

10 (D) OTHER INFORMATION:

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:58:

CACCACCCAGgtgcgcggggctgcaggggcggaca 35

15 (2) INFORMATION FOR SEQ ID NO:59:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 35 bases
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

20 (ii) MOLECULE TYPE: DNA (genomic) human

(ix) FEATURE:

(A ) NAME/KEY: AIPL1 gene exon/intron Acceptor splice site

(B) LOCATION:

(D) OTHER INFORMATION:

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:59:

gctggatgctccctgctccccacagGCATCGTGAA 35

30 (2) INFORMATION FOR SEQ ID NO:60:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 18 bases
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single

(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: DNA Primer  
(ix) FEATURE:  
    (A ) NAME/KEY: AIPL1 gene Exon 1 Primer  
    (B) LOCATION: 240  
    (D) OTHER INFORMATION:  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:60:  
        5'-ggacacctccctttctcc-3'

18

(2) INFORMATION FOR SEQ ID NO:61:

(i) SEQUENCE CHARACTERISTICS:  
    (A) LENGTH: 18 bases  
    (B) TYPE: nucleic acid  
    (C) STRANDEDNESS: single  
    (D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: DNA Primer  
(ix) FEATURE:  
    (A ) NAME/KEY: AIPL1 gene Exon 1 Primer  
    (B) LOCATION: 240  
    (D) OTHER INFORMATION:  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:61:  
        5'-gctggggctgcctggctg-3'

18

(2) INFORMATION FOR SEQ ID NO:62:

(i) SEQUENCE CHARACTERISTICS:  
    (A) LENGTH: 20 bases  
    (B) TYPE: nucleic acid  
    (C) STRANDEDNESS: single  
    (D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: DNA Primer  
(ix) FEATURE:  
    (A ) NAME/KEY: AIPL1 gene Exon 2 Primer  
    (B) LOCATION: 297  
    (D) OTHER INFORMATION:

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:62:  
5'-gggccttgaacagtgtgtct-3'

20

(2) INFORMATION FOR SEQ ID NO:63:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 19 bases
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA Primer

(ix) FEATURE:

- (A ) NAME/KEY: AIPL1 gene Exon 2 Primer
- (B) LOCATION: 297
- (D) OTHER INFORMATION:

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:63:

5'-tttcccgaacacagcagc-3'

19

(2) INFORMATION FOR SEQ ID NO:64:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 18 bases
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA Primer

(ix) FEATURE:

- (A ) NAME/KEY: AIPL1 gene Exon 3 Primer
- (B) LOCATION: 364
- (D) OTHER INFORMATION:

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:64:

5'-agtgaggagcaggattc-3'

18

(2) INFORMATION FOR SEQ ID NO:65:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 bases

(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: DNA Primer  
(ix) FEATURE:  
(A ) NAME/KEY: AIPL1 gene Exon 3 Primer  
(B) LOCATION: 364  
(D) OTHER INFORMATION:  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:65:  
5'-tgcccatgatgcccgctgtc-3'

(2) INFORMATION FOR SEQ ID NO:66:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 18 bases  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: DNA Primer  
(ix) FEATURE:  
(A ) NAME/KEY: AIPL1 gene Exon 4 Primer  
(B) LOCATION: 315  
(D) OTHER INFORMATION:  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:66:  
5'-tttcgggtctctgatggg-3'

(2) INFORMATION FOR SEQ ID NO:67:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 17 bases  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: DNA Primer  
(ix) FEATURE:  
(A ) NAME/KEY: AIPL1 gene Exon 4 Primer

(B) LOCATION: 315

(D) OTHER INFORMATION:

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:67:

5'-gcaggctccccagagtc-3'

17

5

(2) INFORMATION FOR SEQ ID NO:68:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 19 bases

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA Primer

(ix) FEATURE:

(A ) NAME/KEY: AIPL1 gene Exon 5 Primer

(B) LOCATION: 279

(D) OTHER INFORMATION:

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:68:

5'-gcagctgcctcaggatcatg-3'

19

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(2) INFORMATION FOR SEQ ID NO:69:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 18 bases

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA Primer

(ix) FEATURE:

(A ) NAME/KEY: AIPL1 gene Exon 5 Primer

(B) LOCATION: 279

(D) OTHER INFORMATION:

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:69:

5'-gtgggggtggaaagaaaag-3'

18

(2) INFORMATION FOR SEQ ID NO:70:



(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 18 bases
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA Primer

(ix) FEATURE:

- (A ) NAME/KEY: AIPL1 gene Exon 6 Primer
- (B) LOCATION: 497
- (D) OTHER INFORMATION:

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:70:

5'-ctgggaagggagctgtag-3'

18

(2) INFORMATION FOR SEQ ID NO:71:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 19 bases
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA Primer

(ix) FEATURE:

- (A ) NAME/KEY: AIPL1 gene Exon 6 Primer
- (B) LOCATION: 497
- (D) OTHER INFORMATION:

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:71:

5'-aaaagtgacaccacgatcc-3'

19

(2) INFORMATION FOR SEQ ID NO:72:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 444 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(ix) FEATURE:

(A ) NAME/KEY: **Human** Aipl1

(B) LOCATION:

(D) OTHER INFORMATION:

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:72:

5 MDAALLLNVEGVKKTILHGGTGELPNFITGSRVIFHFRTMKCDE  
ERTVIDDSRQVGQPMHIIIGNMFKLEVWEILLTSMRVHEVAEFWCDTIHTGVYPILSR  
SLRQMAQGKDPTTEWHVHTCGLANMFAYHTLGYEDLDELQKEPQPLVFVIELLQVDAPS  
DYQRETWNLSNHEKMKAVPVLHGEGNRLFKLGRYEEASSKYQEAIIICLRNLQTKEKPW  
EVQWLKLEKMINTLILNYCQCLLKKEEYEVLEHTSDILRHHPGIVKAYYVRARAHAE  
10 VVNEAEAKADLQKVLELEPSMQKAVRRELRLLENRMAEKQEEERLXCRNMLSQGATQP  
PAEPPTPEPPAQSSTEPPAEPTAPSAELSAGPPAEPAETPPPPSPGHSLQH

(2) INFORMATION FOR SEQ ID NO:73:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 444 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(ix) FEATURE:

(A ) NAME/KEY: **Chimpansee** Aipl1

(B) LOCATION:

(D) OTHER INFORMATION:

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:73:

MDAALLLNVEGVKKTILHGGTGELPNFITGSRVIFHFRTMKCDEERTVIDDSRQVGQPMHIIIGN  
25 MFKLEVWEILLTSMRVHEVAEFWCDTIHTGVYPILSRSLRQMAQGKDPTTEWHVHTCGLANMFAYH  
TLGYEDLDELQKEPQPLVFVIELLQVDAPSDYQRETWNLSNHEKMKAVPVLHGEGNRLFKLGRYE  
EASSKYQEAIIICLRNLQTKEKPWEVQWLKLEKMINTLILNYCQCLLKKEEYEVLEHTSDILRHH  
PGIVKAYYVRARAHAEVVNEAEAKADLRKVLELEPSMQKAVRRELRLLENRMAEKQEEERLRCRN  
MLSQGATQPPAEPTPEPPAQSSTEPPAEPPAPSAELSAGPPAETATEPPPPSPGHSLQH

30

(2) INFORMATION FOR SEQ ID NO:74:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 444 amino acids

(B) TYPE: amino acid

- (D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: protein  
(ix) FEATURE:  
(A ) NAME/KEY: **Baboon** Aipl1  
(B) LOCATION:  
(D) OTHER INFORMATION:

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:74:

MDAALLLNVEGVKKTILHGGTGELPNFITGSRVIFHFRTMKCDEERTVIDDSRQVDQPMHIIIGN  
MFKLEVWEILLTSMRVHEVAEFWCDTIHTGVYPILSRSLRQMAQGKDPTTEWHVHTCGLANMFAYH  
TLGYEDLDELQKEPQPLIFVIELLQVDAPSDYQRETWNLSNHEKMKVVPVLHGEGNRLFKLGRYE  
EASSKYQEAIICLRNLQTKEKPWEVQWLKLEKMINTLTNLNYCQCLLKKEEYVEVLEHTSDILRHH  
PGIVKAYYVRARAHAEVWNEAEAKADLQKVLELEPSMQKAVRRELRLLENRMAEKQEEERLRCRN  
MLSQGATQPPTEPPAEPHTAPPAELSTGPPAEPPELPLSPGHSLOH

(2) INFORMATION FOR SEQ ID NO:75:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 444 amino acids  
(B) TYPE: amino acid  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: protein  
(ix) FEATURE:  
(A ) NAME/KEY: **Cow** Aipl1  
(B) LOCATION:  
(D) OTHER INFORMATION:

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:75:

MDATLLLNVEGIKKTILHGGTGDLPNFITGARVTFHFRTMKCDEERTVIDDSKQVGHMHIIGN  
MFKLEVWEILLTSMRVSEVAEFWCDTIHTGVYPILSRSLRQMAEGKDPTTEWHVHTCGLANMFAYH  
TLGYEDLDELQKEPQPLIFIIELLQVEAPSQYQRETWNLNQEKMQAVPILHGEGNRLFKLGRYE  
EASNKYQEAIIVCLRNLQTKEKPWEVQWLKLEKMINTLILNYCQCLLKKEEYVEVLEHTSDILRHH  
PGIVKAYYVRARAHAEVWNEAEAKADLEKLVLELEPSMRKAVQRELRLLENRLEEKREERLRCRN  
MLG

(2) INFORMATION FOR SEQ ID NO:76:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 444 amino acids

(B) TYPE: amino acid  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: protein  
(ix) FEATURE:

5 (A ) NAME/KEY: **Mouse** Aipl1

(B) LOCATION:

(D) OTHER INFORMATION:

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:76:

10 MDVSLLLNVEGVKKTILHGGTGELPNFITGSRVTFHFRTMKCDEERTVIDDSKQVGQPMSIIIGN  
MFKLEVWETLLTSMRLGEVAEFWCDTIHTGVYPMLSRSLRQVAEGKDPTSWHVHTCGLANMFAYH  
TLGYEDLDDELQKEPQPLVFLYELLQVEAPNEYQRETWNLNNEERMQAVPLLHGEGNRLYKLG RYD  
QAATKYQEAI VCLRNLTQKEKPWEVEWLKLEKMINTLILNYCQCLLKKEEY YEVLEHTSDILRHH  
PGIVKAYYMRARAHAEVWNAEEAKADLEKVLELEPSMRKAVLRELRLLESRLADKQEEERQRCRS  
MLG

(2) INFORMATION FOR SEQ ID NO:77:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 444 amino acids

(B) TYPE: amino acid

20 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(ix) FEATURE:

(A ) NAME/KEY: **Rhesus Monkey** Aipl1

(B) LOCATION:

25 (D) OTHER INFORMATION:

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:77:

30 MDAALLLNVEGVKKTILHGGTGELPNFITGSRVIFHFRTMKCDEERTVIDDSRQVDQPMHIIIGN  
MFKLEVWEILLTSMRVHEVAEFWCDTIHTGVYPILSRSLRQMAQGKDPTTEWHVHTCGLANMFAYH  
TLGYEDLDDELQKEPQPLIFVIELLQVDAPSDYQRETWNLSNHEKMKVVPVLHGEGNRLFKLGRYE  
EASSKYQEAIICLRNLQTKKEKPWEVQWLKLEKMINTLTNLNYCQCLLKKEEY YEVLEHTSDILRHH  
PGIVKAYYVRARAHAEVWNEAEAKADLQKVLELEPSMQKAVRRELRLLENRMAEKQEEERLRCRN  
MLSQGATQPPAEPPAQPTAPPAELSTGPPADPPAEPPPTAPPAELSTGPPAEPPAELPLSPGHS LQH

(2) INFORMATION FOR SEQ ID NO:78:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 444 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(ix) FEATURE:

(A ) NAME/KEY: *Squirrel Monkey* Aipl1

(B) LOCATION:

(D) OTHER INFORMATION:

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:78:

MDAALLLNVEGVKKTILHGGTGELPNFITGSRVIFHFRTMKCDEERTVIDDSREVGQPMHIIIGN  
MFKLEVWEILLTSMRVREVAEFWCDTIHTGVYPILSRSLRQMAQGKDPTTEWHVHTCGLANMFAYH  
TLGYEDLDELQKEPQPLIFVIELLQVDAPSDYQRETWNLSNHEKMKVVPVLHGEGNRLFKLGRYE  
EASSKYQEAIICLRNLQTKKEPWVQWLKLEKMINTLIILNYCQCLLKKEEYVEVLEHTSDILRHH  
PGIVKAYYYVRARAHAEVWNEAEAKADLQKVLELEPSMQKAVRRELRLLENRMAEKQEEERLRCRN  
MLSQGATWSPAEPPEPPAESSTEPPAEPPAEPPAELTLTPGHPLQH